APPENDIX C

**BUILDING EVALUATION FORM** 

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# **Building Evaluation**

# Check Sheet Development

#### ✓ Purpose

The purpose of the check sheets contained in this manual is to provide a standardized base from which any person of moderate training can make an accurate estimation of the condition of the structure, mechanical systems and safety concerns of a building.

The results of these check sheets are entered on the Building Evaluation Form.

### Check Sheet Rationale

In the case of the items comprising exterior and interior building condition, the check sheets provide direct examples of the rating to be entered on the Building Evaluation Form. The nature of the condition, if other than "GOOD," is to be indicated on the check sheet.

For mechanical systems and safety items the following approach was developed to categorize both individual aspects of each system and the system as a whole.

### ✓ Define a GOOD System

For each system (Electrical, Plumbing, etc):

Characteristics which define a "GOOD" system were first identified. These characteristics are referred to as ITEMs in the evaluation and are stated in a way that a positive answer meets the requirements for a GOOD system.

#### ✓ Rate Negative Responses

For each ITEM, possible negative answers are listed. Those answers are rated fair, poor or unsatisfactory according to the established definitions (i.e., whether a specific negative answer would tend to require system replacement or minor repair, etc.)

#### ✓ Rank Negative Responses

Each negative answer is ranked according to its relative severity. In this case the rankings used are:

Low Concern (-3) Moderate Concern (-6) High Concern (-12)

# Instructions for Conducting a Building and Suitability Evaluation and Completing the Building Evaluation Form (BEF)

#### ✓ Overview

- 1. **Primary Form** The Building Evaluation Form (see page 1) is the primary document for reporting the results of building evaluations. Virtually all survey results are based upon this form, not the detailed systems rating forms (DSRF).
- 2. One Form per Building The BEF applies to individual buildings where instruction occurs. If a school involves more than one instructional building, the evaluator should complete a separate BEF for each building. Major additions may require a separate form. (See "Scoring Building Additions" on page iii.) If a building (e.g., an auditorium) is used by more than one school, indicate both school names on the BEF.
- 3. Detailed Systems Rating Forms The purpose of the detailed systems rating forms is to provide consistency and justification for the ratings that are entered on the BEF. There is a detailed rating form for each of the twenty systems listed on the BEF. The detailed systems rating forms are grouped into five categories of "building components": Exterior, Interior, Mechanical Systems, Safety/Building Code, and Provisions for the Handicapped.

There is also a detailed rating form to back up the suitability rating that appears at the bottom of the BEF.

- 4. Evaluation Procedure The basic evaluation procedure is to rate each of the twenty systems according to the criteria listed on the detailed systems rating forms and to transfer the results onto the BEF. For two categories of systems, Exterior and Interior, the transfer is direct. The rating on the DSRF corresponds to the ratings on the BEF.
  - All of the other systems (Mechanical, Safety/Building Code, Handicapped) require an additional procedure to develop the rating for the BEF. This procedure is called a "Check Sheet" and is explained below. (See "Rating Systems via Check Sheets" on page ii.)
- 5. Combined Ratings In some cases there may be more than one type of a particular system in a building (e.g., both central steam and individual room heating and cooling). Also, there may be cases in which the condition of a particular system varies widely within the buildling (e.g., the carpet in the halls and classrooms is new and excellent, but the cafeteria floor tile shows extreme wear, damage, crumbling and dispersal of friable asbestos). In these cases, the evaluator rates each different system or condition separately, and develops a combined score that reflects the proportion of the building involved in each system or condition. There is a special column on the BEF for listing combined systems scores. (See "Scoring Building Additions" on page ii.)

6. Adjusted Total Score - Some buildings do not have cooling systems or fixed equipment. If a buildling lacks either or both of these elements, it is necessary to adjust the total score. (See "Building Scoring" on page iii.)

### ✓ Rating Systems via Check Sheets

The rating of Mechanical, Safety/Building Code and Handicapped systems uses check sheets to enhance consistency and reliability. Use the following procedure to rate each system in these categories. (Instructions are repeated on each check sheet.)

The System Evaluation begins with the summing of each RATING Column and entering the number in Column C.

Column A lists the total possible score for each RATING.

#### ✓ Tolerance Point Level

Column B lists the TOLERANCE POINT LEVEL (TPL). This number is a controlled variable that determines at what point the system as a whole is classified as that RATING.

- 1. The system is rated by comparing the ACTUAL SCORE in each RATING to the TPL If the ACTUAL SCORE exceeds the TPL, a check is placed in Column D. If the ACTUAL SCORE does not exceed the TPL, a check is placed in Column E.
- 2. The SYSTEM RATING is then determined by finding the check in the worst RATING. If the check is in Column D, the SYSTEM RATING is that RATING. If the check is in Column E, the SYSTEM RATING is the next better rating.
- 3. The SYSTEM RATING is then entered in the appropriate column of the Building Evaluation Form. It should be kept in mind that the check sheets are to assist in the rating process and if the final SYSTEM RATING differs from the opinion of the review team, the team's assessment should be entered on the Building Evaluation Form.

# ✓ Scoring Building Additions (Or Significant Disparate Conditions)

Buildings that have had significant additions require special treatment. The evaluator must judge how much difference there is between the original structure and the addition. For example, if the original building is significantly older than the new wing and shares no structural or mechanical components with it, the two should be rated on separate building condition evaluation forms. The total scores for each are then combined on the basis of total area as indicated in the example below.

If only one system (e.g., heating, roof, etc.) of the addition is different from the original, rate only that one system separately. The two scores for that one system can then be combined, using total area as the basis for apportionment.

Example: ROOF		Total Area	Rating
	Original Building Addition	12,000 Sq.Ft. 4,000 Sq.Ft. ======= 16,000 Sq.Ft.	x 7 = 84,000 x 2 = 8,000 ==== 92,000
	Combined Score	<u>92,000</u> 16,000	= 5.75

Enter the result, to two decimals, in the "COMBINED" Column.

The same approach should be used in cases where there are significantly disparate conditions affecting a building system even if no addition is involved.

### ✓ Total Building Scoring

After each component's system has been rated on the Building Evaluation Form, the score for the building as a whole must be calculated.

- 1. Calculate the score for each building component by summing its systems' ratings.
- 2. Sum the scores of the four building components and enter the result on the Building Evaluation Form in the Unadjusted Score box.
- 3. Calculate the total of each Rating Column. (The sum of these totals should equal the amount in the Unadjusted Score box).
- 4. Calculate the total possible building score. Two building systems not found in every building are Fixed Equipment (2.4) and Cooling (3.4). When these systems are not present, the total possible score for the building (100 points) is reduced.
  - If the building does not contain fixed equipment the total possible building score is reduced by 2 points.
  - If the building does not have a cooling system the total possible building score is reduced by 6 points.
  - If the building does not either fixed equipment and a cooling system the total possible building score is reduced by 8 points.
- Calculate the Adjusted Score for the building by dividing the Unadjusted Score (step 2) by the total possible score (step 5). Enter this score in the Adjusted Score box on the Building Evaluation Form.

Adjusted Score	Unadjusted Score						TOTAL CONDITION SCORE	
			+1	+2	ż	*	4.5 Fire Resistance	
			0	0	<u>±</u>	<b>‡</b> 2	4.4 Emergency Lighting	Component Score
			<b>±</b>	<b>†</b> 2	ż	*	4.3 Fire Alarm System	
			<u>-</u>	<b>‡</b> 2	ځ	<b>‡</b>	4.2 Fire Control Capability	
			0	<b>+</b> 2	4	÷	4.1 Means of Exit	4.0 Safety/Building Code
			0	<b>†</b> 2	ż	4	3.5 Lighting	
			<u>+</u>	₺	*	÷6	3.4 Cooling	Component Score
			<b>±</b>	<b>+</b> 2	ż	÷	3.3 Heating	
			0	<b>±</b>	<b>*</b> 2	*	3.2 Plumbing	
			0	<b>*</b> 2	<b>*</b>	÷	3.1 Electrical	3.0 Mechanical Systems Condition
			0	0	=	ځ	2.4 Fixed Equipment	
			0	±	ż	5.	2.3 Cellings	Component Score
			0	±	ភ	å	2.2 Walls	
			0	<b>+2</b>	<b>5</b>	+8	2.1 Floors	2.0 Interior Building Condition
			0	0	<u>-</u>	+2	1.5 Trim	
			0	0	=	ځ	1.4 Windows/Doors	Component Score
			0	₺	ţ,	+7	1.3 Roof	
			<b>±</b>	ځ	ţ,	<b>&amp;</b>	1.2 Walls	
			4	க்	å	+12	1.1 Foundation/Structure	1.0 Exterior Building Condition
COMMENTS	C		(4)	(3)	(2)	(3)	SYSTEMS	COMPONENTS
		COMBINED	UNSAT.	POOR	FAIR	G00D		
				RATINGS				
Building Name /#			School Name (s)	School			County / School District	<b>EVALUATION FORM</b>
		L						BUILDING

1.0 Exterior Building Condition

# Form 1.1 Foundation/Structure

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate X in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one answer. Transfer the result directly to the Building Condition Evaluation Form. In PART B of this form indicate the nature of the condition if other than good.

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	ROUTINE MAINTENANCE: No visible sign of distress or failure in building. Routine maintenance will be adequate.	x			
2	MINOR REPAIR: Minor shrinkage cracks in floor. No disruption of service in facility. A few minor cracks in walls with no intrusion back into building. Continuous observation recommended. Tuck pointing cracks and flashing repair started.		×		
3	MAJOR REPAIR: Settlement cracks in floor creating problems for certain equipment. Distinct signs of roof or wall leaks and water penetrating into building. Corrective action should take place at once to stop any further damage.			×	
4	REPLACEMENT: Foundations, columns, beams or structural walls showing any sign of failure or distress such as settling, subsidence, severe cracking or crushing should get emergency attention such as shoring, evacuation and restricted access. Repairs should begin at once. Replacement should be scheduled as soon as possible.				x

PART B	Nature of the system problem if other than good

PARI	C	General Comments

# Form 1.2 Exterior Building - Walls

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate X in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one answer. Transfer the result directly to the Building Condition Evaluation Form. In PART B of this form indicate the nature of the condition if other than good.

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	ROUTINE MAINTENANCE: No apparent problems visible under close inspection. Total systems in sound condition. No sign of water intrusion or damage. Routine maintenance adequate.	x			
2	MINOR REPAIR: Slight cracking in face of wall. Any water intrusion inconsequential. Flashing systems working well to expel water out of wall. Continual monitoring required and schedule timely corrective work.		×		•
3	MAJOR REPAIR: Water instrusion apparent. Sign of entrance into building and penetration into other areas. Calls for immediate attention and corrective work.			x	
4	REPLACEMENT: Extensive damage to building interior materials/systems obvious. Emergency attention/possible replacement called for.				x

PART B	Nature of the system problem if other than good	

PART C General Comments		

# Form 1.3 Exterior Building - Roof

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate X in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one answer. Transfer the result directly to the Building Condition Evaluation Form. In PART B of this form indicate the nature of the condition if other than good.

			RAT	INGS	
#	ITEMS	G00D(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	ROUTINE MAINTENANCE: Roof membranes, flashing and entire system sound and complete. No failure or problems of any kind apparent. Routine maintenance sufficient.	x			
2	MINOR REPAIR: No apparent failure evident. Minor repairable problems visible such as built up membrane blisters, loose or displaced flashing and any broken tiles/shingles on a sloped tile/shingle roof. Timely repair and attention called for.		×		
3	MAJOR REPAIR: Failure apparent. Water intrusion obvious. Repair and attention call for immediate and satisfactory repair. Emerging and stop-gap temporary measures called for should extreme weather conditions occur such as high wind or severe temperatures.			x	
4	REPLACEMENT: Severe and extensive failure of system apparent, resulting in extensive damage to building, disruption of operation or damage to systems or equipment. Conditions call for immediate intervention and replacement.				<b>x</b>

PART B	Nature of the system problem if other than good

PART C	General Comments		

# Form 1.4 Exterior Building – Windows/Doors

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate X in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one answer. Transfer the result directly to the Building Condition Evaluation Form. In PART B of this form indicate the nature of the condition if other than good.

			RAT	INGS	
#	ΠEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	ROUTINE MAINTENANCE: All doors and windows in excellent shape with all operations normal. Routine maintenance sufficient.	x			
2	MINOR REPAIR: Slight problems with doors or windows which are easily repaired or adjusted such as individual broken panes, hardware, caulking or other operating systems. Schedule timely repair to stop further deterioration. School house hardware function exists.		x		
3	MAJOR REPAIR: Significant problems affecting the operation of doors and windows such as locking devices and ease of operating. Failure of any emergency devices calling for immediate attention and repair. Windows lack good thermal characteristics. Doors and/or windows in need of prompt repair.			x	
4	REPLACEMENT: Extensive failure of emergency devices, doors and windows inoperable due to broken parts, or the doors or windows themselves. Immediate attention and correction called for.				х

PART B	Nature of the system problem if other than good

P	A	R	T	$\mathbf{C}$	General	Comments
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# Form 1.5 Exterior Building - Trim

County	District	School
Building	Date	Evaluators
		· '

Directions: For each ITEM, circle the appropriate X in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one answer. Transfer the result directly to the Building Condition Evaluation Form. In PART B of this form indicate the nature of the condition if other than good.

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	ROUTINE MAINTENANCE: All trim (including gutters, downspouts and soffits secure and in excellent condition. All caulking in place and complete.	x			
2	MINOR REPAIR: Only minor repair called for such as re-caulking or painting of trim.		X		
3	MAJOR REPAIR: Major repairs needed and apparent condition calls for immediate attention. Significant problems occurring at roof facias and/or at jambs and sill of doors and windows.			×	
4	REPLACEMENT: Extensive and complete disrepair apparent. Obvious signs of intrusion or failure in building envelope. Damage by intrusion of elements extensive. Replacement indicated.				×

. ]	PART B	Nature of the system problem if other than good	

P	Ak	CI.	C	General	Comments
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2.0 Interior Building Condition

# Form 2.1 Interior Building - Floors

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate X in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one answer. Transfer the result directly to the Building Condition Evaluation Form. In PART B of this form indicate the nature of the condition if other than good.

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	ROUTINE MAINTENANCE: Routine maintenance is adequate to preserve quality of finishes and prevent premature aging.	x			
2	MINOR REPAIR: Signs of wear apparent. Maintenance frequency may need to be improved or quality of maintenance may need to be improved.		×		
3	MAJOR REPAIR: Significant signs of wear apparent.  Material nearing end of service life. Replacement and renewal of finish should be scheduled or consideration be given to taking space out of service.			×	
4	REPLACEMENT: Possible hazardous conditions present including asbestos. Needs immediate attention. Finish of floor worn out. Carpets soiled to unsightly condition. Floor tile broken or chipped. Replacement called for or discontinue use until corrected. Replacement called for or discontinue use until corrected.				х

PART B	Nature of the system problem if other than good

PARI	General	Comments

# Form 2.2 Interior Building - Walls

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate X in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one answer. Transfer the result directly to the Building Condition Evaluation Form. In PART B of this form indicate the nature of the condition if other than good.

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	ROUTINE MAINTENANCE: Routine maintenance adequate.  Material all in clean serviceable condition.	×			
2	MINOR REPAIR: Soiled, worn, cracked surfaces beginning to appear. Maintenance to be improved and corrective measures should be taken. Close monitoring started to assure measures are taking care of previous conditions.		×		
3	MAJOR REPAIR: Badly soiled or stained surfaces, cracking which can be repaired and patched and where timely repair can correct problems.			×	
4	REPLACEMENT: Conditions similar to above only more extensive. Fallen plaster or severely impaired surfaces. Wall tile broken or missing. Deficiencies causing extreme conditions resulting in damage to substrate as well as surface material or or contains friable asbestos. Immediate corrective action should be taken.				x

PART B Nature of the system problem if other than good	-	

PART C	General	Comments
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# Form 2.3 Interior Building - Ceilings

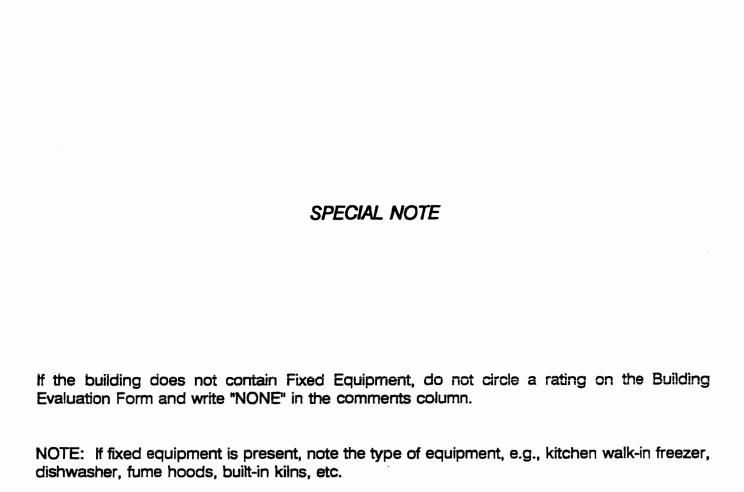
County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate X in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one answer. Transfer the result directly to the Building Condition Evaluation Form. In PART B of this form indicate the nature of the condition if other than good.

			RATINGS				
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)		
1	ROUTINE MAINTENANCE: No apparent deficiencies or problems. Routine maintenance adequate to preserve and maintain.	×					
2	MINOR REPAIR: Slight soiling or discoloration visible. Prompt corrective action can bring surfaces back to good appearance and routine maintenance capable of preserving use.		×				
3	MAJOR REPAIR: Soiled and stained conditions apparent. Cracking also evident. Conditions possibly caused by water or other liquids. Lay-in ceiling tile may be missing or broken or discolored and should be replaced. Plaster needs to be repaired and surfaces painted or treated. Timely maintenance will restore to usable condition.			X			
4	REPLACEMENT: Broken, chipped, sagging and severely stained material present or containing asbestos.  Substrate and finish must be repaired. Unsafe and hazardous conditions must be corrected and space not used until correction made.	_			X		

PART B	Nature of the system problem if other than go	oc
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P.	A	RT	C	General	Comments
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# Form 2.4 Interior Building - Fixed Equipment

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate X in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one answer. Transfer the result directly to Building Condition Evaluation Form. In PART B of this form indicate the nature of the condition if other than good.

### PART A

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	ROUTINE MAINTENANCE: Equipment (e.g. kitchen walk-in freezer, dishwasher, fume hoods, built-in kilns) in good shape and in excellent working condition. Routine maintenance adequate.	×			
2	MINOR REPAIR: Equipment worn and well used. Parts may need to be replaced. Equipment in working order but may require more than routine maintenance.		x		
3	MAJOR REPAIR: Maintenance costs high. Fairly frequent breakdowns with some loss of service time. Parts may be difficult to obtain or are expensive. Equipment may be inefficient. Service life is limited and replacement should be scheduled.			×	
4	REPLACEMENT: Breakdowns are frequent. Parts no longer available or cost prohibitive. Equipment out of service most of the time. Immediate replacement called for. Safety devices missing or inadequate. Should receive emergency attention.				x

PART B	Nature of the s	ystem problem	if other tha	n good

PART C General Comments

3.0 Mechanical Systems Condition

# Form 3.1 Electrical

County	District	School
Building	Date	Evaluators
	-	

Directions: For each ITEM, circle the appropriate entry in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one entry in each row. If the ITEM is not applicable to the building's system, circle the X in RATING COLUMN (1). After rating all items, total the point score in RATING COLUMNS (2), (3) and (4) and enter in PART B.

			RATINGS				
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)		
1	Electrical conductors properly rated for service voltage and amperage.  Agree (1), Disagree (4)	x			12		
2	Conductors properly jacketed for the specific location where installed.  Agree (1), Disagree (3)	×		6			
3	Circuit protection by breakers.  Agree (1), Some circuits protected by fuses (3),  Many circuits protected by fuses (4)	x		6	6		
4	Breakers properly rated for the load and of the free-trip type.  Agree (1), Some not properly rated (2), Many not properly rated and/or some not of free-trip type (4)	×	12		12		
5	Steel jacketed cables show no rust.  Agree (1), Show extensive rust (2)	x	3				
6	Junction boxes in good working condition.  Agree (1), Some damaged or missing parts (4)	<b>X</b>		<b>3</b>			
7	Conductor supports exist and in place.  Agree (1), Disagree (2)	X	3				
8	Conductors installed in well ventilated spaces.  Agree (1), Disagree (4)	X			6		
9	Adequate class and division of electric materials used in hazardous and flammable spaces.  Agree (1), Disagree (4)	X			12		
10	Outdoor ground transformers are fully fenced or enclosed.  Agree (1), Disagree (2)	x	6				

			RATINGS  GOOD(1) FAIR(2) PCOR(3) UNSAT(4		
#	ITEMS	GOOD(1)	FAIR(2)	PCOR(3)	UNSAT(4)
11	Electric outlets and fixed motors properly grounded.  Agree (1), Disagree (2)	x		12	
12	Main electrical panel and panel room conforms to electrical code requirements.  Agree (1), Disagree (4)	X			12

#### PART B

	(A) POSSIBLE SCORE	(B) TOLERANCE POINT LEVEL	(C) ACTUAL SCORE	(D) CHECK IF (C) > (B)	(E) CHECK IF (C) <= (B)	SYSTEM RATING (Check One)
GOOD						GOOD
FAIR	24	8				FAIR
POOR	27	9				POOR
UNSAT	60	20				UNSAT

Directions: For the EVALUATION SCORE, total the value of circled numbers in each rating category and enter in Column (C). Check Columns (D) and (E) as indicated. Do not check (E) for Actual Scores of zero. For the SYSTEM RATING, find the worst rating category (i.e. poor is worse than fair) with a check in either Column (D) or (E). If the check is in Column (D), the SYSTEM RATING is the worst rating checked. If the check is in Column (E), the SYSTEM RATING is ONE rating better than the worst rating checked. Enter result on FORM B.

### PART C

#### **GENERAL COMMENTS AND CONCLUSIONS**

**EVALUATION SCORING AND SYSTEM RATING** 

If the results of the SYSTEM RATING differ substantially from the overall evaluation of the team, enter that rating and indicate specific areas of differences and the reasons for changing the ratio.

# Form 3.2 Plumbing

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate entry in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one entry in each row. If the ITEM is not applicable to the building's system, circle the X in RATING COLUMN (1). After rating all items, total the point score in RATING COLUMNS (2), (3) and (4) and enter in PART B.

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	Majority of fixtures less than 10 years old.  Agree (1), Disagree (3)	x		12	
2	Fixtures not stained or cracked.  Agree (1), Disagree (3)	x		3	
3	Fixtures not broken.  Agree (1), Disagree (4)	x			12
4	Fittings' plating not deteriorated.  Agree (1), Disagree (3)	x		3	
5	Pipes well thermally insulated and vapor barrier in place.  Agree (1), Disagree (3)	x		3	
6	Hot and cold water pipes show no mineral deposits inside.  Agree (1), Disagree (3)	x		12	
7	If required, system is provided with hot water re-circulation pump and pipes.  Agree (1), Disagree (2)	x	6		
8	Water cross connections to non-potable sources provided with backflow preventors.  Agree (1), Disagree (4)	<b>X</b>			12
9	Water heater has thermostat/temperature pressure.  Agree (1), Disagree (4)	x			12
10	Water heater flue tubes show no mineral deposits on the outside perimeter.  Agree (1), Disagree (4)	X			6
11	Water heater flue tubes show no rust.  Agree (1), Disagree (2)	x	12		

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
12	Water heater flue ducts are air tight and well sealed to the chimney connection.  Agree (1), Disagree (3)	x		3	
13	Gas/oil automatic combustion system in good working cond.  Agree (1), Disagree (3)	x		12	
14	Water piping provided with water hammer arrestors.  Agree (1), Disagree (2)	x	6		
15	Drain pipes do not leak.  Agree (1), Disagree (4)	x			6
16	Drain pipes provided with adequate clean-outs.  Agree (1), Disagree (2)	X	6		
17	Drain venting system complies with local plumbing code.  Agree (1), Disagree (some vents terminate indoors or piped outdoors below building envelope openings) (2)	x	12		
18	Cold and hot water piping network provided with adequate separation valves for maintenance and repair purposes.  Agree (1), Disagree (4)	x			3
19	Cold water main provided with water pressure regulator.  Agree (1), Disagree (3)	x		6	
20	Valves easily accessible for handling.  Agree (1), Disagree (2)	x	3		
21	Drain sump pumps fully automatic controlled.  Agree (1), Disagree (3)	<b>X</b>		12	
22	Water heater efficiency over 80%.  Agree (1), Disagree (3)	X		12	

### PART B

EVALUAT	EVALUATION SCORING AND SYSTEM RATING						
	(A) POSSIBLE SCORE	(B) TOLERANCE POINT LEVEL	(C) ACTUAL SCORE	(D) CHECK IF (C) > (B)	(E) CHECK IF (C) <= (B)	SYSTEM RATING (Check One)	
GOOD						GOOD	
FAIR	45	15	_			FAIR	
POOR	78	26				POOR	
UNSAT	51	17				UNSAT	

Directions: For the EVALUATION SCORE, total the value of circled numbers in each rating category and enter in Column (C). Check Columns (D) and (E) as indicated. Do not check (E) for Actual Scores of zero. For the SYSTEM RATING, find the worst rating category (i.e. poor is worse than fair) with a check in either Column (D) or (E). If the check is in Column (D), the SYSTEM RATING is the worst rating checked. If the check is in Column (E), the SYSTEM RATING is ONE rating better than the worst rating checked. Enter result on FORM B.

#### PART C

#### GENERAL COMMENTS AND CONCLUSIONS

If the results of the SYSTEM RATING differ substantially from the overall evaluation of the team, enter that rating and indicate specific areas of differences and the reasons for changing the ratio.

#### SPECIAL NOTE

There are multiple forms for evaluation of heating and cooling systems. Select the forms appropriate for the building's system to assist in rating central heating and cooling on the Building Evaluation Form. If the building does NOT have a central (or large area) system in either of these categories, mark the appropriate column on the Building Evaluation Form based on your assessment of performance and maintenance experience.

For central (or large area) systems, use:

- Form 3.3.1 for Steam/Hot water Heating.
- Form 3.3.2 for Hot water Heating.
- Form 3.3.3 for Forced Air Heating.
- Form 3.4.1 for Combination Forced Air Heating and Cooling and use the results for both the heating and cooling categories on the Building Evaluation Form.
- Form 3.4.2 for Central Air Conditioning without heat.

In certain cases, a system may combine Hot Water/Steam and Forced Air. In such cases, rate the central heat generation system under 3.3.1 or 3.3.2 and the heat distribution elements under 3.3.3.

NOTE: IF the building does not have a cooling system, do not circle a rating on the Building Lvaluation Form, and write "NONE" in the comments column.

# Form 3.3.1 Steam/Hot Water Heating System

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate entry in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one entry in each row. If the ITEM is not applicable to the building's system, circle the X in RATING COLUMN (1). After rating all items, total the point score in RATING COLUMNS (2), (3) and (4) and enter in PART B.

		RATINGS			
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	Steam boiler efficiency.  Over 80% (1), 70-80% (2)	x	12		
2	Boller thermal insulation jacket in place and tight.  Agree (1), Disagree (2)	×	3		
3	Boiler refractory shows no visible cracks.  Agree (1), Disagree (4)	x			6
4	Boiler fuel control in working condition.  Agree (1), Disagree (4)	x			12
5	The brick chimney is not deteriorated.  Agree (1), Disagree (3)	x		3	
6	Flue ducts are airtight and well sealed at chimney entrance.  Agree (1), Disagree (4)	x			3
7	No visible rust on boiler water tubes.  Agree (1), Disagree (4)	x			6
. 8.	Pipe insulation (min. 1") in place and tight.  Agree (1), More than 20% deteriorated (2)	, <b>X</b> ,	<b>.</b> . 6		
9	If water hardness dictates, feed water softener exists and in working condition.  Agree (1), Disagree (3)	×		6	
10	Condensate deaerator exists and in working condition.  Agree (1), Disagree (3)	x		12	
11	If water condition indicates, chemical water treatment exists and in working condition.  Agree (1), Disagree (2)	×	6		

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	P00R(3)	UNSAT(4)
12	Pipes show no visible corrosion.  Agree (1), Disagree (4)	x			6
13	Condensate pipes show no scale deposits.  Agree (1), Disagree (3)	x		12	
14	Valves and steam traps do not leak.  Agree (1), Disagree (4)	x			3
15	Condensate tank does not show corrosion and insulated.  Agree (1), Disagree (2)	x	3		
16	Pipes well anchored and free to expand.  Agree (1), Disagree (3)	x		3	
17	Heat exchanger well insulated and shows no corrosion.  Agree (1), Disagree (4)	x			3
18	Air separators exist and are in working condition.  Agree (1), Disagree (3)	X		6	
19	Space heaters are of fin type and not damaged.  Agree (1), Disagree (Cast iron type) (3)	<b>X</b>		6	
20	Space temperature controlled by timers or energy saving thermostats.  Agree (1), Disagree (standard type) (3)	x		12	
21	Pump bearings less than 10,000 hours in operation.  Agree (1), Disagree (2)	X	6		
. 22	Pumps do not leak.  Agree (1), Disagree (4)	. <b>X</b>			з
23	Stand-by pumps exist.  Agree (1), Disagree (2)	x	12		
24	Pipes connected to pumps by flexible connections.  Agree (1), Disagree (2)	x	3		
25	Control indicators like thermo/manometers (temperature and pressure gauges) exist.  Agree (1), Disagree (4)	х			3
26	Pumps equipped with high efficiency motors.  Agree (1), Disagree (3)	x		12	

#### PART B

EVALUAT	TION SCORING	ON SCORING AND SYSTEM RATING					
	(A) POSSIBLE SCORE	(B) TOLERANCE POINT LEVEL	(C) ACTUAL SCORE	(D) CHECK IF (C) > (B)	(E) CHECK IF (C) <= (B)	SYSTEM RATING (Check One)	
GOOD						GOOD	
FAIR	51	17				FAIR	
POOR	72	24				POOR	
UNSAT	45	15				UNSAT	

Directions: For the EVALUATION SCORE, total the value of circled numbers in each rating category and enter in Column (C). Check Columns (D) and (E) as indicated. Do not check (E) for Actual Scores of zero. For the SYSTEM RATING, find the worst rating category (i.e. poor is worse than fair) with a check in either Column (D) or (E). If the check is in Column (D), the SYSTEM RATING is the worst rating checked. If the check is in Column (E), the SYSTEM RATING is ONE rating better than the worst rating checked. Enter result on FORM B.

### PART C

#### GENERAL COMMENTS AND CONCLUSIONS

If the results of the SYSTEM RATING differ substantially from the overall evaluation of the team, enter that rating and indicate specific areas of differences and the reasons for changing the ratio.

# Form 3.3.2 Hot Water Heating System

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate entry in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one entry in each row. If the ITEM is not applicable to the building's system, circle the X in RATING COLUMN (1). After rating all items, total the point score in RATING COLUMNS (2), (3) and (4) and enter in PART B.

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	Boiler efficiency. Over 80% (1), Under 80% (2)	x	12		
2	Boiler thermal insulation jacket in place and tight.  Agree (1), Disagree (2)	x	3		
3	Boiler refractory shows no visible cracks.  Agree (1), Disagree (4)	×			6
4	Boiler fuel control in working condition.  Agree (1), Disagree (4)	x			12
5	Brick chimney not deteriorated.  Agree (1), Disagree (3)	x		3	
6	Flue ducts airtight and well sealed at chimney entrance.  Agree (1), Disagree (4)	x			3
7	Boiler water tubes not rusted.  Agree (1), Disagree (3)	x		6	
8	Pipe insulation (min. 1") in place and tight.  Agree (1), More than 20% deteriorated (2)	_ <b>X</b> .	6		
9	Expansion tank shows no visible rust.  Agree (1), Disagree (4)	x			3
10	If water condition indicates, chemical water treatment exists and in working condition.  Agree (1), Disagree (2)	x	6		
11	Pipes show no visible corrosion.  Agree (1), Disagree (3)	×		6	

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
12	Automatic water supply temperature control valve exists.  Agree (1), Disagree (4)	x			12
13	Valves do not leak.  Agree (1), Disagree (4)	x			3
14	water strainer exists and basket not corroded.  Agree (1), Disagree (4)	x			6
15	Air separators exist and in working condition.  Agree (1), Disagree (4)	x			6
16	Space heaters are of fin type and not damaged.  Agree (1), Disagree (Cast iron type) (3)	×		6	
17	Space temperature controlled by timers or energy saving thermostats.  Agree (1), Disagree (standard type) (3)	x		12	
18	Pump bearings less than 10,000 hours operation.  Agree (1), Disagree (2)	x	6		
19	Pumps do not leak.  Agree (1), Disagree (4)	X			3
20	Stand-by circulation pumps exist.  Agree (1), Disagree (2)	x	12		
21	Pipes connected to pumps by flexible connections.  Agree (1), Disagree (2)	x	3		
22	Control indicators like thermo/manometers (temperature/pressure gauges) exist.  Agree (1), Disagree (4)	<b>x</b>			3
23	Pumps are equipped with high efficiency motors.  Agree (1), Disagree (3)	x		12	
24	Pipes well anchored and free to expand.  Agree (1), Disagree (4)	x			3

#### PART B

EVALUAT	ATION SCORING AND SYSTEM RATING					
	(A) POSSIBLE SCORE	(B) TOLERANCE POINT LEVEL	(C) ACTUAL SCORE	(D) CHECK IF (C) > (B)	(E) CHECK IF (C) <= (B)	SYSTEM RATING (Check One)
GOOD						GOOD
FAIR	48	16				FAIR
POOR	45	15				POOR
UNSAT	60	20				UNSAT

Directions: For the EVALUATION SCORE, total the value of circled numbers in each rating category and enter in Column (C). Check Columns (D) and (E) as indicated. Do not check (E) for Actual Scores of zero. For the SYSTEM RATING, find the worst rating category (i.e. poor is worse than fair) with a check in either Column (D) or (E). If the check is in Column (D), the SYSTEM RATING is the worst rating checked. If the check is in Column (E), the SYSTEM RATING is ONE rating better than the worst rating checked. Enter result on FORM B.

#### PART C

#### GENERAL COMMENTS AND CONCLUSIONS

If the results of the SYSTEM RATING differ substantially from the overall evaluation of the team, enter that rating and indicate specific areas of differences and the reasons for changing the ratio.

# Form 3.3.3 Forced Air Heating

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate entry in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one entry in each row. If the ITEM is not applicable to the building's system, circle the X in RATING COLUMN (1). After rating all items, total the point score in RATING COLUMNS (2), (3) and (4) and enter in PART B.

Air handling unit casing shows no rust.  Agree (1), Disagree (4)  Air handling unit provided with air tight doors.  Agree (1), Disagree (4)  Fans show no rust.  Agree (1), Disagree (4)  Fans well balanced and do not vibrate.  Agree (1), Disagree (4)  Fans provided with air inlet vanes.  Agree (1), Disagree (2)  Fan bearings have less than 20,000 operating hours logged.  Agree (1), Disagree (4)  Fans mounted on vibration isolators.  Agree (1), Disagree (2)  Flexible connections exist between fans and ductwork.  Agree (1), Disagree (4)	ATINGS	
Agree (1), Disagree (4)  2 Air handling unit provided with air tight doors.  Agree (1), Disagree (4)  3 Fans show no rust.  Agree (1), Disagree (4)  4 Fans well balanced and do not vibrate.  Agree (1), Disagree (4)  5 Fans provided with air inlet vanes.  Agree (1), Disagree (2)  6 Fan bearings have less than 20,000 operating hours logged.  Agree (1), Disagree (4)  7 Fans mounted on vibration isolators.  Agree (1), Disagree (2)  8 Flexible connections exist between fans and ductwork.  Agree (1), Disagree (4)	) POOR(3)	UNSAT(4)
Agree (1), Disagree (4)  Fans show no rust. Agree (1), Disagree (4)  Fans well balanced and do not vibrate. Agree (1), Disagree (4)  Fans provided with air inlet vanes. Agree (1), Disagree (2)  Fan bearings have less than 20,000 operating hours logged. Agree (1), Disagree (4)  Fans mounted on vibration isolators. Agree (1), Disagree (2)  Flexible connections exist between fans and ductwork. Agree (1), Disagree (4)		3
Agree (1), Disagree (4)  4 Fans well balanced and do not vibrate.  Agree (1), Disagree (4)  5 Fans provided with air inlet vanes.  Agree (1), Disagree (2)  6 Fan bearings have less than 20,000 operating hours logged.  Agree (1), Disagree (4)  7 Fans mounted on vibration isolators.  Agree (1), Disagree (2)  8 Flexible connections exist between fans and ductwork.  Agree (1), Disagree (4)		3
Agree (1), Disagree (4)  5 Fans provided with air inlet vanes.  Agree (1), Disagree (2)  6 Fan bearings have less than 20,000 operating hours logged.  Agree (1), Disagree (4)  7 Fans mounted on vibration isolators.  Agree (1), Disagree (2)  8 Flexible connections exist-between fans and ductwork.  Agree (1), Disagree (4)		6
Agree (1), Disagree (2)  Fan bearings have less than 20,000 operating hours logged.  Agree (1), Disagree (4)  Fans mounted on vibration isolators.  Agree (1), Disagree (2)  Flexible connections exist between fans and ductwork.  Agree (1), Disagree (4)		6
Agree (1), Disagree (4)  7 Fans mounted on vibration isolators. X 6 Agree (1), Disagree (2)  8 Flexible connections exist between fans and ductwork. X Agree (1), Disagree (4)		
Agree (1), Disagree (2)  8 Flexible connections exist between fans and ductwork. X  Agree (1), Disagree (4)		6
Agree (1), Disagree (4)		
O Hastine cells on strine (recordless of anomy source)		_ <b>3</b>
9 Heating coils or strips (regardless of energy source) X not rusted Agree (1), Disagree (4)		6
Heating coils or strips not damaged or dust plugged. X  Agree (1), Disagree (2)		
Heating coils or strips designed with fins.  **Agree (1), Disagree (4)*  X		12

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
12	Hot water heating coils heat output controlled by automatic water temperature control valve (3 way).  Agree (1), Disagree (3)	x		12	
13	Electric heating coils equipped with solid state controls.  Agree (1), Disagree (2)	х	6		
14	Gas or Oil heating heat exchangers not rusted.  Agree (1), Disagree (2)	x	12		
15	Gas or Oil burner automatically controlled and unit works.  Agree (1), Disagree (4)	x			12
16	Air filters of electronic type.  Agree (1), Disagree (2)	х	6		
17	Gas or Oil heaters have direct spark ignition systems.  Agree (1), Disagree (2)	X	3		
18	Electric motors are high efficiency models.  Agree (1), Disagree (2)	x	12		
19	Air handling unit equipped with enthalpy control economizer (balancers using outside air).  Agree (1), Disagree (3)	x		12	
20	Combustion system in good working condition.  Agree (1), Disagree (4)	x			12
21	System includes timers or programmable energy saving room thermostats.  Agree (1), Disagree (2)	x	12		
22	Ducts show no rust.  Agree (1), Disagree (4)	X			6
23	Duct thermal insulation in place and tight.  Agree (1), Disagree (3)	x		6	
24	Air diffusers and grills show no rust.  Agree (1), Disagree (4)	x			3
25	Air balancing dampers exist for each air supply outlet.  Agree (1), Disagree (3)	x		6	

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
26	No objectionable noise from the heating equipment noticed in rooms.  Agree (1), Disagree (3)	×		12	
27	Fire damper exists at fire separation walls.  Agree (1), Disagree (4)	x			12
28	Any form of heat recovery unit exists.  Agree (1), Disagree (2)	x	6		
			_		-

#### PART B

EVALUATION SCORING AND SYSTEM RATING						
	(A) POSSIBLE SCORE	(B) TOLERANCE POINT LEVEL	(C) ACTUAL SCORE	(D) CHECK IF (C) > (B)	(E) CHECK IF (C) <= (B)	SYSTEM RATING (Check One)
GOOD						GOOD
FAIR	75	25			·	FAIR
POOR	48	_16				POOR
UNSAT	90	30				UNSAT

Directions: For the EVALUATION SCORE, total the value of circled numbers in each rating category and enter in Column (C). Check Columns (D) and (E) as indicated. Do not check (E) for Actual Scores of zero. For the SYSTEM RATING, find the worst rating category (i.e. poor is worse than fair) with a check in either Column (D) or (E). If the check is in Column (D), the SYSTEM RATING is the worst rating checked. If the check is in Column (E), the SYSTEM RATING is ONE rating better than the worst rating checked. Enter result on FORM B.

### PART C

#### GENERAL COMMENTS AND CONCLUSIONS

If the results of the SYSTEM RATING differ substantially from the overall evaluation of the team, enter that rating and indicate specific areas of differences and the reasons for changing the ratio.

# Form 3.4.1 Central Air Conditioning – Heating Combination

A. County No.	B. District	C. School or Center No.
D. Building No.	Date	Evaluators

Directions: For each ITEM, circle the appropriate entry in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one entry in each row. If the ITEM is not applicable to the building's system, circle the X in RATING COLUMN (1). After rating all items, total the point score in RATING COLUMNS (2), (3) and (4) and enter in PART B.

			849998888888888998899999	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	Air handling unit casing shows no rust.  Agree (1), Disagree (4)	x			3
2	Air handling unit provided with air tight doors.  Agree (1), Disagree (4)	x			3
3	Fans show no rust.  Agree (1), Disagree (4)	x			6
4	Fans well balanced and do not vibrate.  Agree (1), Disagree (4)	x			6
5	Fans provided with air inlet vanes.  Agree (1), Disagree (2)	x	6		
6	Fan bearings have less than 20,000 operating hours logged.  Agree (1), Disagree (4)	х			6
7	Fans mounted on vibration isolators.  Agree (1), Disagree (2)	x	6		
8	Flexible connections exist between fans and ductwork.  Agree (1), Disagree (4)	x			- 3
9	Evaporative coils not rusted.  Agree (1), Disagree (4)	x			6
10	Evaporative coils not damaged or dust plugged.  Agree (1), Disagree (2)	x	6		
11	Heating coils or strips (regardless of energy source). not rusted Agree (1), Disagree (4)	х			6

			64 meter 1990au 1990au	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
12	Heating coils or strips not damaged or dust plugged.  Agree (1), Disagree (2)	x	6		
13	Heating coils or strips designed with fins.  Agree (1), Disagree (4)	x			12
14	Electric heating coils equipped with solid state controls.  Agree (1), Disagree (2)	x	6		
15	Gas or Oil heating heat exchangers not rusted.  Agree (1), Disagree (2)	x	12		
16	Gas or Oil burner automatically controlled and unit works.  Agree (1), Disagree (4)	x			12
17	Gas or Oil heaters have direct spark ignition systems.  Agree (1), Disagree (2)	X	3		
18	Combustion system in good working condition.  Agree (1), Disagree (4)	X			12
19	Air filters of electronic type.  Agree (1), Disagree (2)	X	6		
20	Electric motors are high efficiency models.  Agree (1), Disagree (2)	X	12		
21	Air handling unit equipped with enthalpy control economizer.  Agree (1), Disagree (3)	x		12	
22	Compressors fully hermetic.  Agree (1), Disagree (4)	x			12
23	Refrigerant circuits equipped with low/high pressure cut-off switches in working condition.  Agree (1), Disagree (4)	· · · <b>X</b> ·			- <b>12</b>
24	Compressors mounted on vibration isolators.  Agree (1), Disagree (3)	x		6	

		RATINGS				
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)	
25	System includes timers or programmable energy saving room thermostats.  Agree (1), Disagree (2)	x	12			
26	Ducts show no rust.  Agree (1), Disagree (4)	x			6	
27	Duct thermal insulation in place and tight.  Agree (1), Disagree (3)	x		6		
28	Air diffusers and grills show no rust.  Agree (1), Disagree (4)	x			3	
29	Air balancing dampers exist for each air supply outlet.  Agree (1), Disagree (3)	x		6		
30	No objectionable noise from the air conditioning equipment noticed in the rooms  Agree (1), Disagree (3)	x		12		
31	No self-contained window type air conditioners exist.  Agree (1), Disagree (More than 20% of rooms equipped) (4)	×			12	
32	Fire damper exists at fire separation walls.  Agree (1), Disagree (4)	×			12	
33	Any form of heat recovery unit exists.  Agree (1), Disagree (2)	×	6			

### PART B

EVALUA	FION SCORING	AND SYSTEM RA	TING			
	(A) POSSIBLE SCORE	(B) TOLERANCE POINT LEVEL	(C) ACTUAL SCORE	(D) CHECK IF (C) > (B)	(E) CHECK IF (C) <= (B)	SYSTEM RATING (Check One)
GOOD						GOOD
FAIR	81	27				FAIR
POOR	42	14				POOR
UNSAT	132	44				UNSAT

Directions: For the EVALUATION SCORE, total the value of circled numbers in each rating category and enter in Column (C). Check Columns (D) and (E) as indicated. Do not check (E) for Actual Scores of zero. For the SYSTEM RATING, find the worst rating category (i.e. poor is worse than fair) with a check in either Column (D) or (E). If the check is in Column (D), the SYSTEM RATING is the worst rating checked. If the check is in Column (E), the SYSTEM RATING is ONE rating better than the worst rating checked. Enter result on FORM B.

### PART C

#### GENERAL COMMENTS AND CONCLUSIONS

If the results of the SYSTEM RATING differ substantially from the overall evaluation of the team, enter that rating and indicate specific areas of differences and the reasons for changing the ratio.

# Form 3.4.2 Central Air Conditioning

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate entry in RATING COLUMNS (1) through (4) as indicated by the ITEM description. Circle only one entry in each row. If the ITEM is not applicable to the building's system, circle the X in RATING COLUMN (1). After rating all items, total the point score in RATING COLUMNS (2), (3) and (4) and enter in PART B.

			RAT	TINGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	Air handling unit casing shows no rust.  Agree (1), Disagree (4)	x			3
2	Air handling unit provided with air tight doors.  Agree (1), Disagree (4)	x			3
3	Fans show no rust.  Agree (1), Disagree (4)	x			6
4	Fans well balanced and do not vibrate.  Agree (1), Disagree (4)	x			6
5	Fans provided with air inlet vanes.  Agree (1), Disagree (2)	x	6		
6	Fan bearings have less than 20,000 operating hours logged.  Agree (1), Disagree (4)	x			6
7	Fans mounted on vibration isolators.  Agree (1), Disagree (2)	х	6		
8	Flexible connections exist between fans and ductwork.  Agree (1), Disagree (4)	<b>X</b>			3
9	Evaporative coils not rusted.  Agree (1), Disagree (4)	X			6
10	Evaporative coils are not damaged or dust plugged.  Agree (1), Disagree (2)	X	6		
11	All filters are of the electronic type.  Agree (1), Disagree (2)	x	6		
12	Electric motors are high efficiency models.  Agree (1), Disagree (2)	X	12		

			RAT	INGS	
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
13	Air handling unit equipped with enthalpy control economizer (balancers using outside air).  Agree (1), Disagree (3)	x		12	
14	Compressors fully hermetic.  Agree (1), Disagree (4)	x			12
15	Refrigerant circuits equipped with low/high pressure cut-off switches in working condition.  Agree (1), Disagree (4)	x			12
16	Compressors are mounted on vibration isolators.  Agree (1), Disagree (3)	х		6	
17	System includes timers or programmable energy saving room thermostats.  Agree (1), Disagree (2)	х	12		
18	Ducts show no rust.  Agree (1), Disagree (4)	x			6
19	Duct thermal insulation in place and tight.  Agree (1), Disagree (3)	X		6	
20	Air diffusers and grills show no rust.  Agree (1), Disagree (4)	x			3
21	Air balancing dampers exist for each air supply outlet.  Agree (1), Disagree (3)	X		6	
22	No objectionable noise from the air conditioning equipment is noticed in the rooms.  Agree (1), Disagree (3)	X	_	12	
23	No self-contained window type air conditioners exist.  Agree (1), Disagree (4)	x			12
24	Fire damper exists at fire separation walls.  Agree (1), Disagree (4)	×			12
25	Any form of heat recovery unit exists.  Agree (1), Disagree (2)	x	6		

#### PART B

EVALUATION SCORING AND SYSTEM RATING									
	(A) POSSIBLE SCORE	(B) TOLERANCE POINT LEVEL	(C) ACTUAL SCORE	(D) CHECK IF (C) > (B)	(E) CHECK IF (C) <= (B)	SYSTEM RATING (Check One)			
GOOD						GOOD			
FAIR	54	18				FAIR			
POOR	42	14				POOR			
UNSAT	90	30				UNSAT			

Directions: For the EVALUATION SCORE, total the value of circled numbers in each rating category and enter in Column (C). Check Columns (D) and (E) as indicated. Do not check (E) for Actual Scores of zero. For the SYSTEM RATING, find the worst rating category (i.e. poor is worse than fair) with a check in either Column (D) or (E). If the check is in Column (D), the SYSTEM RATING is the worst rating checked. If the check is in Column (E), the SYSTEM RATING is ONE rating better than the worst rating checked. Enter result on FORM B.

#### PART C

#### **GENERAL COMMENTS AND CONCLUSIONS**

If the results of the SYSTEM RATING differ substantially from the overall evaluation of the team, enter that rating and indicate specific areas of differences and the reasons for changing the ratio.

# Form 3.5 Lighting

County	District	School
Building	Date	Evaluators

Directions: For each ITEM, circle the appropriate entry in RATING COLUMNS (1) through (4) as indicated by the item description. Circle only one entry in each row. If the ITEM is not applicable to the building's system, circle the X in RATING COLUMN (1). After rating all items, total the point score in RATING COLUMNS (2), (3) and (4) and enter in PART B.

		RATINGS			
#	ITEMS	GOOD(1)	FAIR(2)	POOR(3)	UNSAT(4)
1	Lamps of mercury vapor or fluorescent type.  Agree (1), Most of fluorescent type (2), Most of incandescent type (3), All of incandescent (4)	x	12	12	12
2	Building has central light switch panel with secondary switches that overide local switches.  Agree (1), Disagree (2)	x	6		
3	Lights provide proper light intensity (watts/sqft) for the specific area where installed.  Agree (1), Some do not (3), Most do not (4)	X		12	12
4	Outdoor lights controlled by photocell  Agree (1), Disagree (3)	x		6	
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#### PART B

EVALUATION SCORING AND SYSTEM RATING								
	(A) POSSIBLE SCORE	(B) TOLERANCE POINT LEVEL	(C) ACTUAL SCORE	(D) CHECK IF (C) > (B)	(E) CHECK IF (C) <= (B)	SYSTEM RATING (Check One)		
GOOD						GOOD		
FAIR	18	6				FAIR		
POOR	30	10				POOR		
UNSAT	24	8				UNSAT		

Directions: For the EVALUATION SCORE, total the value of circled numbers in each rating category and enter in Column (C). Check Columns (D) and (E) as indicated. Do not check (E) for Actual Scores of zero. For the SYSTEM RATING, find the worst rating category (i.e. poor is worse than fair) with a check in either Column (D) or (E). If the check is in Column (D), the SYSTEM RATING is the worst rating checked. If the check is in Column (E), the SYSTEM RATING is ONE rating better than the worst rating checked. Enter result on FORM B.

### PART C

#### **GENERAL COMMENTS AND CONCLUSIONS**

If the results of the SYSTEM RATING differ substantially from the overall opinion of the team, enter the team's rating on FORM B and use this space to indicate specific areas of differences and the reasons for changing the rating.